

The BGS Intranet

Delivering data to the geologist's desk

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The Internet is now a part of everyday life. Even if you are not one of the 19.36 million people in the UK currently online (Nielson NetRatings, May 2000), you cannot escape the constant reference to web sites that has taken over the media. The Internet has enabled us to conduct business, carry out research, shop, bank, and pursue our hobbies on a global scale. Using the Internet, we can access and disseminate information 24 hours a day from the comfort of our living rooms.

Internet technology is now being used within the BGS to provide rapid access to information via its Intranet site. The

BGS Intranet is a web site that can only be accessed by BGS staff. BGS geologists require easy access to geoscience data and the Intranet provides an easy-to-use method of delivering the information geologists need to carry out their work, direct to their desk.

Delivering data to BGS staff

A well-managed data resource, from which users can confidently retrieve information, relies on well-defined standards for data collection, management, modelling and structuring. Having defined standards for how data are managed, it is equally important to



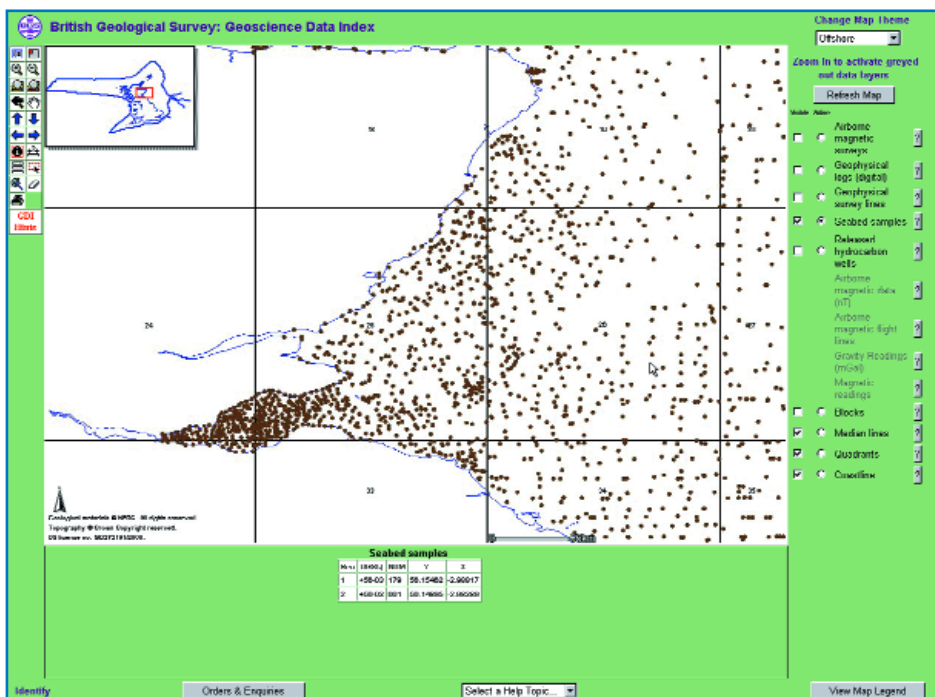
Tim Cullen, BGS © NERC

BGS scientists can now access a large archive of data from their desks via the Intranet.

define standards for how they are deployed. The World Wide Web is now widely regarded as the logical solution for the deployment of information in well-managed databases. In fact, many believe that providing access to databases is the application that really proves the worth of Internet technology. Using web-based technology to deliver database applications has two main advantages. Firstly, users are already familiar with the interface provided by a web browser. Secondly, web-based applications will work across all computing platforms and operating systems used by BGS staff, without the need to install any additional software on the users' desks. This means that applications can be centrally maintained and updated and that any alterations can be made available to users immediately.

Intranet Data Access application

Three different database applications that are available on the BGS Intranet are highlighted here. The first is the Intranet Data Access application (IDA). This system provides querying and management functionality for a wide range of BGS data (boreholes, site investigation reports, maps, waste sites etc.). Each data-set is accessed via a search (query input) form. Users may search and retrieve information on to their computer screens without having any knowledge of the underlying database. The application also allows data managers to insert or amend data.



Distribution of sea bed sediment samples around the coast of part of Britain from the Geoscience Data Index.

Geoscience Data Index

The Geoscience Data Index (GDI) is a spatial querying system which allows BGS staff to dynamically query the availability of data in any part of Great Britain and the surrounding seas. The BGS acquires and maintains up-to-date information about the UK and its continental shelf by means of systematic geological, geophysical, geochemical, hydrogeological and geotechnical surveys using high-quality data. The GDI enables staff to see the location and some details of this data and to create printed maps showing the distribution of selected data-sets. The GDI uses the latest web-based Geographical Information System (GIS) technology and has now been released externally on the BGS web site at:

www.bgs.ac.uk/geoindex

BGS Descriptive Geological Textbase

The BGS Descriptive Geological Textbase enables BGS staff to query and interact with text, images, plates etc. held within BGS Geological Memoirs and Technical Reports in order to create customised geological reports. This system permits both spatial querying (through web-based GIS) and attribute querying (through the use of online forms).

The application allows staff to specify an area of interest within the current bounds of the textbase (the Midland Valley of Scotland) by using the web-GIS and select data-sets of interest (e.g. solid geology, drift geology, areas of geological significance). Users can further refine their requirements by selecting lithostratigraphical and chronostratigraphical attributes presented in a series of additional online forms. Having selected the required area and data-sets of interest using the online GIS, and further refined their requirements using the online forms, the user can submit their query to the Geological Textbase. A query engine then parses the documents (marked up using Extensible Markup Language) within the textbase that are relevant to the user's query, extracts the required information and returns it as a single web page. A typical returned web page might include text, images, plates or any other information held in the Geological Textbase. The information retrieved is

The screenshot shows a web browser window displaying the 'SOBI Search Result' page. The page title is 'SOBI Search Result' and it includes a BGS Intranet logo. Below the title, there is a message: 'This page has been analysed for BGS internal use only.' A sub-header reads: 'A listing of the relevant links for the records corresponding to your search criteria is displayed. To edit a record, or to view the full record, click the links on the full listed side.' There is a 'Format List for printing?' link and a page indicator '1 to 152 of 153'. The main content is a table with columns: 'QS', 'RT', 'NUMB', 'SUFF', 'BONE NAME', 'EART', 'INDX#', and 'COMP.'. The table lists various borehole records with their respective details.

Results of a borehole query from the Intranet Data Access Application.

presented to the user in such a way that they can 'drill down' to find more detailed information, or sideways to obtain related information on similar topics. The user has control over the information that is brought back and how it is displayed. Details retrieved from the Geological Textbase are tailored to meet the individual needs of each user. It is this flexible presentation of information that is the key to the success of such a system.

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Delivering data to external customers

By using the Intranet to deploy the information in BGS databases to BGS staff, the organisation is ideally placed to deliver this information to the outside world. The same applications can be transferred easily from the Intranet to the BGS Internet site to advertise the

availability of BGS data-sets to a global audience. Two such applications available on the BGS web site that were initially created for BGS staff on the Intranet are the Geoscience Data Index (www.bgs.ac.uk/geoindex) and the BGS Discovery Metadata which describe the data-sets we hold (www.bgs.ac.uk/discoverymetadata).

Success of the BGS Intranet

The BGS Intranet has proved very successful as a means of disseminating information held in BGS databases. Developers need only create one application that will function across a range of computing environments and that can be deployed without the need to install additional software on the users' desk. Users benefit as they are familiar with the interface provided by a web browser and so immediately feel comfortable with their application. The BGS benefits by empowering their staff through more efficient access to information. Such applications can also be easily transferred to external customers to take advantage of the growing e-commerce market.

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